

## Abstract

An automated lance system 1 is installed along the annulus of a nuclear power plant steam generator with a tube array of triangular pattern by means of a slidable guide support rail. The guide support rail 2, which is composed of two parallel circular rods 4 separated vertically with a distance, is tightly fixed inside the hand holes. The guide support rail extends from a hand hole at 0 degree to the other hand hole at 90 or 180 degree. The lance body 3 is slideably held on the guide rail by means of supporting circular holders 26 which are attached both on the bottom and on the upper plates of the lance body. The lance body is comprised of a nozzle block 6 with a nozzle cylinder 7 and a first drive means 9 which makes sweeping motion of the nozzle cylinder, a second drive means 12 which aligns the direction of nozzle jets from the nozzle cylinder by rotating the nozzle block in the horizontal plane, and two side support wheels 23 attached to the outer side plate of the lance body, rolling along the inner wall of the steam generator during lancing. For the transportation of the lance, two control cables 27 which extend outward through the hand holes are attached to both ends of the lance body and are driven by a drive means with a drum 28.